



April 18, 2008

Green Seal is in the final review process for the revision of Environmental Standard for Paints and Coatings (GS-11). As part of the revision, the standard for Anti-Corrosive Paints (GC-3) will be *incorporated* into the Paints Standard (GS-11). Registered stakeholders who submitted a vote on the draft of the final revised standard were invited to review the 2nd draft of the final revised standard and submit a vote during the re-vote process. After the re-vote period closed on March 27, 2008, more negative than affirmative votes were received. The subsequent changes to the standard are listed below. Any substantive changes are explained with rationale for making the change. All changes are highlighted in the 3rd draft of the final standard. The re-vote comments are following the list of changes, verbatim, with any identifying characteristics removed.

By participating in Green Seal's standard setting process, the following organizations that provided comments during the re-vote process played an important role in Green Seal's effort to encourage the design, manufacture and end use of environmentally superior products. Their assistance and involvement is greatly appreciated.

California Air Resources Board (CARB)
California Office of Environmental Health Hazard Assessment (OEHHA)
Endurance Building Systems
Kelly-Moore
National Paint & Coatings Association (NPCA)
PPG Industries
Rohm-Haas
Sico
Stonhard
Ultimate Coatings
Zinsser

LIST OF CHANGES IN 3RD DRAFT FINAL REVISED GS-11/GC-3 STANDARD

- Changed transition date from April 1, 2009 to May 1, 2009.
- Added the following description to the Reflective Elastomeric Wall Coating definition: “is designed and intended for the modification of light and heat radiation characteristics”, such that the definition now reads:
 - **Elastomeric Reflective Wall Coatings:** *A coating that is designed and intended for the modification of light and heat radiation characteristics and has elastic properties and can stretch in the summertime heat and return to its original shape without damage with a DFT of 17 dry mils or greater.*
- Added the option measurement of 85 degrees for Flat, such that the definition now reads:
 - **Flat:** *Paint or coating whose specular gloss registers less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Method D 523–89, Standard Test Method for Specular Gloss.*
- Changed the DFT from 16 mils (0.4mm) to 10 mils (0.25mm) in the floor paint definition, such that the definition now reads:
 - **Floor Paint:** *Opaque coatings that are formulated for or applied to flooring surfaces that have a DFT of 10 mils (0.25mm) or less and are applied by roller or brush. For the purposes of this standard, floor paints do not include epoxy or urethane flooring systems that include coarse aggregates, color chips or flakes as part of a multi-part flooring system. Floor paints also do not include floor finishes which are defined as any product that leaves a protective wax, polymer or resin coating that is designed to be periodically removed and reapplied.*
- Added the option measurement of 85 degrees for Non-Flat, such that the definition now reads:
 - **Non-Flat:** *Paint or coating whose specular gloss registers 15 or greater on an 85-degree meter 5 or greater on a 60-degree meter according to ASTM Method D 523–89, Standard Test Method for Specular Gloss Paint.*
- Added the following description to the Non-Elastomeric Reflective Wall Coating definition: “is designed and intended for the modification of light and heat radiation characteristics”, such that the definition now reads:
 - **Non-Elastomeric Reflective Wall Coatings:** *Latex and thermoplastic coatings designed and intended for the modification of light and heat radiation characteristics with a DFT of 5 dry mils or greater.*
- Added the word “Roof” to Reflective Coating and changed the definition, such that the definition of Reflective Roof Coating now reads:
 - **Reflective Roof Coating:** *A non-bituminous coating labeled and formulated for application to roofs for the primary purpose of reflecting ultraviolet light or reflecting solar radiation.*
- Changed the definition of Volatile Organic Compound (VOC), such that the definition now reads:

- **Volatile Organic Compound (VOC):** Any organic compound which participates in atmospheric photochemical reactions as defined by the U.S. EPA in 40 CFR §51.100 (s) and has an initial boiling point lower than or equal to 280°C measured at standard conditions of temperature and pressure.
- Added an Adhesion test for products applied to concrete surfaces using ASTM D7234 and a limit of 200 psi failure in the concrete. The performance requirement now reads:
 - **Adhesion.** The product shall demonstrate a minimum of 50% or better rating for wet and dry adhesion over the intended substrate, except concrete, as determined by ASTM D3359-2 Standard Test Methods for Measuring Adhesion by Tape Test. Products intended to be applied on concrete shall demonstrate 200 psi failure in the concrete as determined by ASTM D7234-05 Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
- Added definition of hot rolled steel panels to Corrosion Resistance referencing Society of Protective Coatings (SSPC) Paint 23 and Paint 24 standard test method specifications¹, such that the performance requirement now reads:
 - **Corrosion Resistance.** Using manufacturer recommended minimum dry film thickness and application to hot rolled steel panels [footnote: The hot rolled steel test panels should adhere to Society for Protective Coatings (SSPC) Paint 23 or Paint 24 standard test method specifications. If there is no recommended film thickness, then the DFT of each coat shall be 60 to 90 micrometers (2.5 to 3.5 mils)], the product shall have a minimum rust rating of 9 per SSPC-VIS 2 Standard Method of Evaluating Degree of Rusting on Painted Steel Surfaces after 300 hours of exposure as determined by ASTM D5894-05 Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet).
- Added solution (0.5N sodium hydroxide) and length of time (16 hour exposure) to Alkali Resistance, such that the performance requirement now reads:
 - **Alkali Resistance.** The product shall show no signs of lifting, wrinkling, disintegration or more than a slight color change after 16 hours exposure to 0.5N sodium hydroxide solution by spot test as determined by ASTM D1308-02(2007) Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.

¹ SSPC Paint 23 Standard Test Condition Specification

TEST PANELS: The hot rolled steel test panels shall conform to ASTM A 607, Grade 50. Panel size shall be 100 mm x 150 mm x 3.2 mm (4 inch x 6 inch x 1/8 inch) or greater. Test panels shall be solvent cleaned in accordance with SSPC-SP 1 prior to blast cleaning. The test panels shall be blast cleaned in accordance with SSPC-SP 5 and have a blast profile of 44 to 57 micrometers (1.75 to 2.25 mils). Measure the blast profile in accordance with ASTM D 4417, Method C.

SSPC Paint 24 Standard Testing Condition Specification

TEST PANELS: The hot-rolled steel panels shall conform to ASTM A 572. Panel size shall be 75 x 150 x 5 mm (3 x 6 x 3/16 inches) or greater. Panels shall be blast cleaned to SSPC-SP 5 with a minimum profile of 2 mils (50 µm) as measured by ASTM D 4417, Method C.

- Added colorant (red iron oxide) and amount of colorant (4 oz) to Fade Resistance, such that the performance requirement now reads:
 - **Fade Resistance.** *Using 4 oz of red iron oxide pigment, the product shall demonstrate a minimum durability total color change of $\Delta E < 5$ of 1000 hours using QUV-A bulbs with a moisture and/or condensation cycle following the guidelines in ASTM G151-06 Standard Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Source.*
- Added cure conditions to Flexibility of 3 days air dry, followed by 1 week at 50°C, such that the performance requirements now reads (in Section 3.5.2 and Section 3.7.3):
 - **Flexibility.** *The product shall show no signs of cracking, peeling or loss of adhesion as determined by ASTM D522-93a (2001) Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings under the following cure conditions: 3 days air dry followed by 1 week at 50°C.*
 - **Flexibility.** *The product shall demonstrate ½ mandrel bend at -15°F as determined by ASTM D522-93a (2001) Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings under the following cure conditions: 3 days air dry followed by 1 week at 50°C.*
- Changed water resistance test to ASTM D1735, such that the performance requirement now reads:
 - **Water Resistance.** *The product shall show no signs of washing off, lifting or wrinkling as tested by ASTM D1735-04 Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus.*
- Added description of “10 gloss level units” for Accelerated Weathering, such that the performance requirement now reads:
 - **Accelerated Weathering.** *The product shall show no signs of blistering, chalking, checking, cracking, flaking or loss of adhesion with a maximum change of 10 gloss level units after 500 hrs using QUV-A bulb as measured by ASTM D714-02e1 Standard Test Method for Evaluating Degree of Blistering of Paints.*
- Added an exception for products that are pre-tinted by the manufacturer for carbon black up to 1% by weight.
 - Carbon black is listed as IARC 2B, possibly carcinogenic to humans and is also listed as having cancer effects on California’s Proposition 65 as carbon black (airborne, unbound particles of respirable size) and carbon black extracts. However, carbon black is also major component of added colorants with no known alternatives with the same performance. While the majority of products are tinted at the point-of-sale, Green Seal did not intend to unfairly restrict the products that are pre-tinted by the manufacturer. Green Seal is adding a de minimus level of 1% by weight of the product to encourage the reduction of carbon black due to the carcinogenic effects. Green Seal will continue to assess the technological innovations and infrastructure of the industry to determine the most appropriate or feasible approach to addressing chemical components of

- product pre-tinted by the manufacturer as well as additives added at the point-of-sale. The compound prohibition criterion now reads as follows:
- **Compound Prohibitions.** *The product shall not contain any ingredients that are carcinogens, mutagens, reproductive toxins, hazardous air pollutants or ozone-depleting compounds. An exception shall be made for titanium dioxide and for products that are pre-tinted by the manufacturer, carbon black. Carbon black allowed under this exception shall be less than or equal to 1% by weight of the product.*
 - Subsequent change to VOC Content Limit criterion to read as follows:
 - **Volatile Organic Compound (VOC) Content Limit.** *The VOC concentration of the product shall not exceed those listed below in grams of VOC per liter of product as determined by ASTM D6886-03 Standard Test Method for Speciation of the Volatile Organic Compounds (VOCs) in Low VOC Content Waterborne Air-Dry Coatings by Gas Chromatography using 280°C as a specified limit. Alternatively, International Organization for Standardization (ISO) 11890-2 Paints and varnishes -- Determination of volatile organic compound (VOC) content Part 2: GC/MS method may be used, but must use 280°C as a marker. Another scientifically validated test method may be used if accompanied by justification for the method modification and documented in sufficient detail.*
 - Green Seal has modified documents to refer to coalescent agent 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate (TMPD-MIB), CAS No 25265-77-4 , EC No 246-771-9.
 - Free crystalline silica added to the paint formulation is considered to be a prohibited chemical; however, Green Seal confirms that crystalline silica that is detected in a paint formula as a result of trace quartz contamination in mined extender pigments such as calcium carbonate would be exempt under the compound prohibition criterion.

Comment:

Vote: Negative

Our concern is same as last time about Scrubbability test for interior paint. 400 cycles for flat paint with ASTM D-2486-06 with scrub media and shim is unrealistic.

Comment:

Dear Green Seal Staff and all Voting Stakeholders,

I greatly appreciate and support some of the changes incorporated into this document, but I still have to vote negative until 2 items are addressed. These are as follows:

Section 2.8 -- This should be reduced from 16 mils (0.4 mm) down to 10 mils (0.25 mm).
Section 4.1 – This should include exemptions for Carbon Black and Silica, with the same thought and qualifications that the exemption for TiO₂ came from. The regulations and studies all only specifically target airborne, respirable forms of these materials. In the paint, these materials are all not airborne and not respirable.

In addition, I have a few editorial comments that you might consider. These are:
Section 2.21 – I don't know why you refer to this by these numbers. This is "California Proposition 65", which is how it is referred to and found on the web.
Section 3.3 refers to testing in 3.1 which includes 3.1.1 Adhesion by ASTM D3359. Unfortunately, D3359 is not relevant to floor paints (which are mostly applied to concrete. Need to use D7234 in section 3.3.

Comment:

Reaffirming our concern. In the GS-11 standard crystalline silica would be prohibited at levels greater than 0.01%. However, in the GS-11 Balloting Comments on Draft Final Revised Standards", published on your website it states that "Green Seal" recognizes that other forms of crystalline silica, like quartz, are naturally occurring elements and may be a component of other mineral based raw materials. Does this mean that any crystalline silica that is detected in a paint formula as a result of trace quartz contamination in pigments such as calcium carbonate would be exempt? If so, can this be explicitly specified in the CS-11 Standard? It would be almost impossible to reduce crystalline silica to below 100 ppm in a flat formula containing mined extender pigments.

Comment:

Again we very much appreciate Green seal's efforts in revising the GS-11 standard but are voting no based on the following:

3.2 Anti-Corrosive Coatings:

3.2.1 Corrosion Resistance:

The type of panel should be better defined, i.e., is it smooth or blasted HRS, and to

what level of surface preparation. Suggest similar to the SSPC spec for WB primers:

5.1 TEST PANELS: The hot rolled steel test panels shall conform to ASTM A 607, Grade 50. Panel size shall be 100 mm x 150 mm x 3.2 mm (4 inch x 6 inch x 1/8 inch) or greater. Test panels shall be solvent cleaned in accordance with SSPC-SP 1 prior to blast cleaning. The test panels shall be blast cleaned in accordance with SSPC-SP 5 and have a blast profile of 44 to 57 micrometers (1.75 to 2.25 mils). Measure the blast profile in accordance with ASTM D 4417, Method C.

3.3 Floor Paints:

3.3.1 Alkali Resistance

What is the alkali solution – should specify, suggest 0.5N Sodium Hydroxide, also need to specify length of time.

3.4 Interior Topcoats

3.4.1 Scrubbability

400 cycles for a non-flat coating is not stringent enough for a quality paint – we would like to see a minimum requirement of 700 cycles.

3.5 Exterior Topcoats

3.5.1 Fade Resistance

Need to specify a colorant, such as Red Iron Oxide, what level – 2 or 4 oz. or higher?

3.5.3 Water Resistance

ASTM D1308 does not specify a time for the spot test, or the temperature of the water. A more appropriate test for water resistance, early blister resistance for an exterior topcoat is ASTM D1735 using a Fog Box Apparatus.

3.6 Non-Elastomeric Reflective Wall Coatings

3.6.1 Accelerated Weathering

Need better definition on the maximum change allowed – what are the 10 units?

3.7 Elastomeric Reflective Wall Coatings

3.7.3 Flexibility

ASTM D522 does not specify a cure condition. To make sure coating is fully cured and all solvents are removed, coatings should air dry 3 days, followed by 1 week at 50°C

Comment:

Thank you for the opportunity to provide additional input on the Revised GS-11 Paints Standard. However, we will have to vote NO for a second time. The key issues are as follows:

2.2 Carcinogen Definition: The definition of a carcinogen specifically lists several sources containing lists of carcinogens, however, it goes on to include: "...probable, reasonably anticipated, or possible human carcinogens...". This language is overly-broad

and is not reflective of language used in the reference sources. Furthermore, essentially stating that none can be present is unreasonable as contaminants may be present at very low detection limits and are not even being reported by raw material suppliers.

2.10 Ingredient Definition: The definition of an ingredient states: "Any constituent of a product that is intentionally added or known to be a contaminant that comprises at least 0.01% by weight of the product." We believe the phrase "or known to be a contaminant" should be stricken from the definition. In addition, the level of 0.01% by weight is inappropriately stringent. Typically, access to this information is from Material Safety Data Sheets, which list the level at 0.1% for carcinogens.

2.7 and 2.13 Flat and Non-Flat Definitions: The definitions of both Flat and Non-Flat only provide one option for determination of the gloss and that is 60 degrees. As with current AIM regulations, the definitions should also include the option measurement of 85 degrees and include: <15 @ 85 degrees for a Flat and >= 15 @ 85 degrees for a Non-Flat.

Section 3 Product Specific Performance Requirements: We have issues with many of the product specific performance requirements listed in Section 3. Many of the definitions contain extensive performance requirements that would filter out about two-thirds of complying "Green Products" that are truly "Fit for Purpose."

Comment:

[...] thanks Green Seal for another opportunity to vote and to provide additional input on the Revised GS-11 Paints Standard. However, as the [...] representing the paint and coatings industry we will have to vote "NO" for the second time. In reviewing the standard, there are several issues that compel us to vote this way. The key issues are as follows:

2.2- Carcinogen Definition

The definition of a Carcinogen in 2.2 specifically lists several sources containing lists of carcinogens. In doing this, however, the definition also states: "A chemical listed, known, probable, reasonably anticipated, or possible human carcinogen by the..." The problem with having this language in the definition is it is overly broad, and is not reflective of the language used in the referenced source listing (IARC, NTP, EPA-IRIS, and OSHA). Furthermore, the definition does not adequately address trace contaminants, although by inference one could assume they cannot be present or that the allowed levels of carcinogen contaminants would default to 0.01% as provided in the definition of "ingredient". This is unclear, and inconsistent with the current practice for hazard communication (see 29CFR1910.1200) as all contaminants that may be present at very low detection limits (below 0.1%) are not being reported by the suppliers of raw materials. The effect of this will be that no coating will legitimately be able to meet this restriction and thus none will be able to be approved for GS-11.

2.7 & 2.13- Flat and Non-Flat Definitions

The definitions of both the Flat (2.7) and Non-Flat (2.13) only provide one option for the determination of the gloss, and that is at 60 degrees being < 5 for flat coatings or > 5 for non-flat coatings. As with all current AIM regulations, the definition should also include the option measurement of at 85 degrees and include: < 15 @ 85 degrees for a flat and > 15 @ 85 degrees for a non-flat. Specifically, the flat definition should read "A coating that registers a gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter." The non-flat definition should state "A coating that registers a gloss of 15 or greater on an 85-degree meter and 5 or greater on a 60-degree meter."

2.10- Ingredient Definition

Section 2.10 defines an ingredient as "Any constituent of a product that is intentionally added or known to be a contaminant that comprises at least 0.01% by weight of the product." [...] believes the phrase "or known to be a contaminant" should be removed from the definition. We request that the definition be written as follows: "Any constituent of a product that is intentionally added that comprises at least 0.01% by weight of the product." Furthermore, the concentration level of 0.01% by weight, included in the definition of "ingredient" is inappropriately stringent. Paint manufacturers typically have access to information (from MSDSs) on the constituents of raw materials only to the level of 1% by weight, or 0.1% for carcinogens. The question of "known contaminants" has not been adequately addressed or rationalized in this standard, particularly in light of the current trade practice that defaults to 0.1% for carcinogens.

2.24- VOC Definition

The new VOC definition in 2.24 removed the US definition based on photochemical reactivity and made the European definition stricter by increasing the boiling point to 280°C from 250°C, thereby adding VOC-exempt solvents, Texanol and other low-volatility coalescents to the definition of a VOC. The U.S. EPA exempts compounds with negligible photochemical reactivity from the definition of VOCs in 40 CFR §51.100(s). NPCA strongly believes that the revision of the boiling point criteria in the definition of VOC is arbitrary and capricious, and solely intended to target a single compound: Texanol. Although [...] will refer to the chemical as Texanol in these comments, Texanol is a registered industry trademark and a proprietary name for 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate, or TMPD-MIB. It is a coalescent and not a solvent, as suggested in the Green Seal Balloting Comments. [...] respectfully requests that the chemical be referred to as TMPD-MIB in all Green Seal documents.

The intent to target Texanol is clearly expressed by Green Seal on page 16 of the Green Seal Balloting Comments document. The summary document alleges that Texanol "presents inhalation dangers". There is no scientific evidence that Texanol, as used in latex paints, presents any significant hazard. A review of the MSDS for Texanol will clearly show that there is no such danger. Moreover, as you know, a substantial fraction

of the Texanol content of a latex paint is apparently retained permanently in the dry paint film and substrate, and never emitted to air.

In this proposed revised standard, it is no longer necessary for compounds to be LISTED as carcinogens, mutagens, or reproductive toxicants. It is no longer necessary for these compounds to actually CAUSE chronic or short term health impacts. The mere speculation that they could be harmful is sufficient. No evidence would be necessary, and no scientific review would be required as it is in any formal listing. All solvents, coalescents, and freeze thaw additives would be harmful VOCs under the proposed Final GS-11 Revised Paints Standard. We consider this arbitrary and expect the result to be that only zero VOC coatings would meet such a GS-11 Standard.

Listed toxics such as hazardous air pollutants, carcinogens, mutagens, and reproductive toxicants are specifically banned from GS-11 formulations. So are ozone-depleting compounds and green-house gases. This new definition blurs the distinction between those compounds and VOCs that have no significant toxicities or environmental impacts. It also removes the distinction between VOCs that produce large amounts of ozone from compounds that don't. Finally, it is not based on any scientific evidence that these low-reactivity solvents are actually harmful to people or the environment.

This is contrary to three of the goals of the GreenSeal standard, namely:

1. To identify products that are designed and manufactured in an environmentally responsible manner.
2. To offer scientific analyses to help consumers make educated purchasing decisions regarding environmental impacts.
3. To encourage manufacturers to develop new products that are significantly less damaging to the environment than their predecessors.

[...] respectfully requests that the 2.24 VOC definition be changed to the following:

Any organic compound which participates in atmospheric photochemical reactions as defined by the U.S. Environmental Protection Agency in 40 CFR §51.100 (s) and has an initial boiling point lower than or equal to 250°C measured at standard conditions of temperature and pressure.

3.0- Product Specific Performance Requirements

[...] has several concerns with many of the product-specific performance requirements listed in section 3.0 of this second draft. Generally speaking, many of the definitions contain performance requirements that would unintentionally filter out about two-thirds of complying "Green Products" that are truly "Fit for Purpose."

3.8- Reflective Roof Coatings

Based upon our review of the comments previously received, it is apparent that the

original GS-11 standard never intended to include roof coatings. It would appear that Green Seal is now expanding upon the original version of the standard, without a reasonable justification for doing so. The incorporation of reflective roof coatings into this standard creates conflicts with existing standards and codes, including Energy Star and California's Title 24 Energy Code.

In addition, bituminous coatings, including emulsions, have been written out of the standard, even though they have distinct environmental and functional advantages in the roofing market place. Furthermore, aluminum coatings that presently meet DOE/EPA Energy Star Roofing Program standards and/or are rated by the Cool Roof Rating Council are written out of this Green Seal Standard, even though these coatings are already in compliance with other environmentally friendly energy efficient standards.

4.0- VOC Content Limit

By adopting South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB) VOC limits, this standard eliminates the use of solvent borne coatings, which have specific uses in select climates (cold and damp), roofing systems and adverse weather conditions. As noted in CARB's recent proposed VOC revisions, they acknowledge that certain climatic regions will require less stringent VOC restrictions in order to maintain products that will perform under these adverse conditions.

4.1- Compound Prohibitions

The prohibition of crystalline silica and carbon black, which may be carcinogenic only in the form of respirable airborne dust, is inappropriate. The Green Seal Balloting Comments document states that "spray application or sanding of the dry film may exposure [sic] the end-user to the respirable form of crystalline silica." This is untrue -- once pigments are encapsulated in paint, they cannot be liberated into free respirable dust by either spraying or sanding, a fact bolstered by the findings of the California Office of Environmental Health Hazard Assessments (OEHHA) which has issued a Safe Use Determination (SUD, under Proposition 65) for crystalline silica in paints (see: http://www.oehha.ca.gov/prop65/CRNR_notices/safe_use/pdf_zip/CRNRsudpaint121803.pdf)

4.5- Effective as of January 1, 2010, Colorant added to the Point of Sale VOC content Limit

Paint manufacturers have no control or knowledge of the VOC content of coatings tinted at the point of sale. All VOC requirements applicable to tinted paints should be deleted from the standard.

[...] hope that Green Seal will carefully examine the issues that have lead our organization to vote "NO" on the 2nd Draft of the Final GS-11 Revised Paints Standard

on behalf of our membership. If there are any questions concerning our comments, please do not hesitate to contact us. Thank you.

Comment:

With my AFFIRMATIVE vote I have three comments:

1) The language in section 4.4 about the temperature marker is vague. I suggest the following revisions:

4.4. Volatile Organic Compound (VOC) Content Limit. The VOC concentration of the product shall not exceed those listed below in grams of VOC per liter of product as determined by ASTM D6886-03 Standard Test Method for Speciation of the Volatile Organic Compounds (VOCs) in Low VOC Content Waterborne Air-Dry Coatings by Gas Chromatography. Compounds which are counted as VOCs shall be defined as all substances that participate in atmospheric photochemical reactions as defined by the U. S. EPA in 40 CFR §51.100(s) and which have an atmospheric pressure boiling point below 2800C. Alternatively, International Organization for Standardization (ISO) 11890-2 Paints and varnishes -- Determination of volatile organic compound (VOC) content Part 2: GC/MS method may be used. Compounds which are counted as VOCs shall be defined as all substances that participate in atmospheric photochemical reactions as defined by the U. S. EPA in 40 CFR §51.100(s) and which have an atmospheric pressure boiling point below 2800C. Another scientifically validated test method may be used if accompanied by justification for the method modification and documented in sufficient detail.

2) Depending on the content of product data sheets or labels, the proposed VOC limit for Reflective Roof Coatings could result in noncompliance with a 50 g/l roof coating limit in California air districts that adopt ARB's 2007 SCM.

3) I may have missed it, but I was unable to find in your response to comments document how the extra 50 g/l added to the VOC limits in the "including colorant" table was arrived at. I would be interested in reading that explanation. In addition, having this table in the standard also seems "less green" than just having the first table, since there can be some coatings that after the addition of colorant could still comply with the "excluding colorant" limits.

Comment:

[...] believe the lack of APEs makes it difficult to achieve many of the properties in wall paints that are required for GS certification, mainly stability of latex based systems. We would rather see its level diminish slowly until there is enough data to ensure that latex paint can be stabilized without it.

Comment:

Vote: Negative

Comments:

I believe that GS-11's VOC content limit is set too high. The VOC level (g/L) for flat topcoat and reflective wall coatings set at 50, and others set between 100 to 250, is a standard that can easily be met by most paint manufacturers. The GS-11 standard should be more exclusive. The movement towards greener paints in use in green buildings is moving rapidly and the standard appears to be at least a year behind in terms of the levels of VOC allowed. The push towards lower VOC paints should be now, with a goal of zero VOC paints in the near future. Various paint manufacturers already have paints that are NOW available below the levels in the GS-11 standards. Additionally, the VOC levels exclude colorants, which could greatly increase the level of VOC release indoors.

To add 50 g/L to the VOC content in paints from colorant (effective January 1, 2010) is not progress. It is assumed that all colorants added to paints are VOC-based. There are in the market now colorants that are water-based or powders. Home Depot's Freshaire paint line uses zero VOC paints and colorants with no VOC. I can see paint lines like Freshaire in other stores soon which may make GS-11 standard not useful.

<http://www.sacbee.com/107/story/784511.html>

<http://hubpages.com/hub/0-VOC-Paints>